

Six new taxa of *Eucalyptus* from Western Australia

By M. I. H. Brooker*

Abstract

Six new eucalypts are described—*Eucalyptus balladoniensis* from near Balladonia, *E. deflexa* from east of Lake King, *E. effusa* from east of the Fraser Range, *E. goniautha* subsp. *semiglobosa* from near Mt Le Grand, *E. leucophloia* from the Pilbara district and eastwards to western Queensland, and *E. prominens* from near Exmouth Gulf.

***Eucalyptus balladoniensis* Brooker sp. nov.** (Figures 1, 2). Pryor and Johnson code SIT:Z.

Frustrum "mallee" ad 4 m altus, caulibus inferis fibrosis, superis laevibus. *Lignotuberum* formans. *Medulla* glandulifera.

Folia plantulae sessilia, plerumque decussata, linearia, 1.5–6 x 0.1–0.8 cm, glauca, supra concava. *Folia adulta* 7–13 x 1–2.5 cm, glandulis oleosis numerosissimis.

Inflorescentiae axillares, 7-florae. *Pedunculi* 1–2 cm longi, aliquot recurvi, complanati vel teretes et crassi. *Alabastra* ad 25 x 8 mm. *Hypanthia* hemisphaerica vel obconica, aliquot costata. *Opercula* valde rostrata, crassa. *Pedicelli* 4–8 mm longi. *Loculi* 4. *Ovula* verticaliter 4-seriata.

Fructus pedicellata, hemisphaerica, 10–12 x 9–12 mm. *Cicatrix operculi* lata, ascendens. *Discus incurvus*. *Valvae* exsertae, dorsaliter excavatae. *Semina* ovalia, ca. 2 x 1 mm, cinerea, laevia.

Type: 80 km by road south of Zanthus towards Balladonia, Western Australia (31°37'S, 123°53'E) 13 Feb. 1970, M. I. H. Brooker 2471 (holo: PERTH; iso: FRI, NSW).

A mallee to 4 m tall with grey to dark grey fibrous bark on the lower trunk, smooth grey brown or pinkish grey above. Capable of forming lignotubers. *Pith* glandular.

Cotyledons bisected, petiole 4–6 mm, arms 5–7 mm. *Seedling leaves* sessile, decussate, rarely spirally arranged, linear, 1.5–6 x 0.1–0.8 cm, bluish green, concave above. *Juvenile leaves* shortly petiolate, lanceolate, up to 15 x 1.7 cm. *Adult leaves* petiolate (to 2 cm long) not opposite, lanceolate, 7–13 x 1–2.5 cm. *Reticulation* dense. *Glands* extremely numerous, seen mostly at veinlet intersections, variable in outline, equal to or larger than the arcoles.

Inflorescences axillary of 7 flowers. *Peduncles* 1–2 cm long, some recurved, flattened or terete and stout. *Buds* to 25 x 8 mm, hypanthium hemispherical to obconical, sometimes ribbed, operculum beaked, thick. *Pedicels* 4–8 mm long. *Stamens* all fertile, flexed both tangentially and radially in bud. *Anthers* subglobular, basifixed, versatile, opening by lateral, oval pores. *Style* inserted deeply into beak of operculum. *Locules* 4. *Ovules* in 4 vertical rows.

Fruit pedicellate, hemispherical, 10–12 x 9–12 mm. *Operculum* scar broad, ascending. *Disc* incurved. *Valves* 4, exserted, hollowed at the back.

Seed oval-shaped, ca. 2 x 1 mm, grey, smooth. *Chaff* reddish brown, cubic or subulate.

Distribution: Western Australia: north and north-west of Balladonia.

Other collections: 160 km east of Norseman by road towards Balladonia (32°12'S, 123°18'E) 5 Sept. 1968, P. G. Wilson 7733, 7734 (PERTH) and 23 Aug. 1969, N. T. Rossiter (FRI); 21 km west of Balladonia by road towards Norseman (32°16'S, 123°26'E) 26 April 1972, M. I. H. Brooker 3653 (FRI, PERTH, NSW, AD, MEL) and 10 April 1974, M. I. H. Brooker 4535 (FRI), 4536 (FRI, PERTH, K, GAUBA).

Flowering period: August–January.

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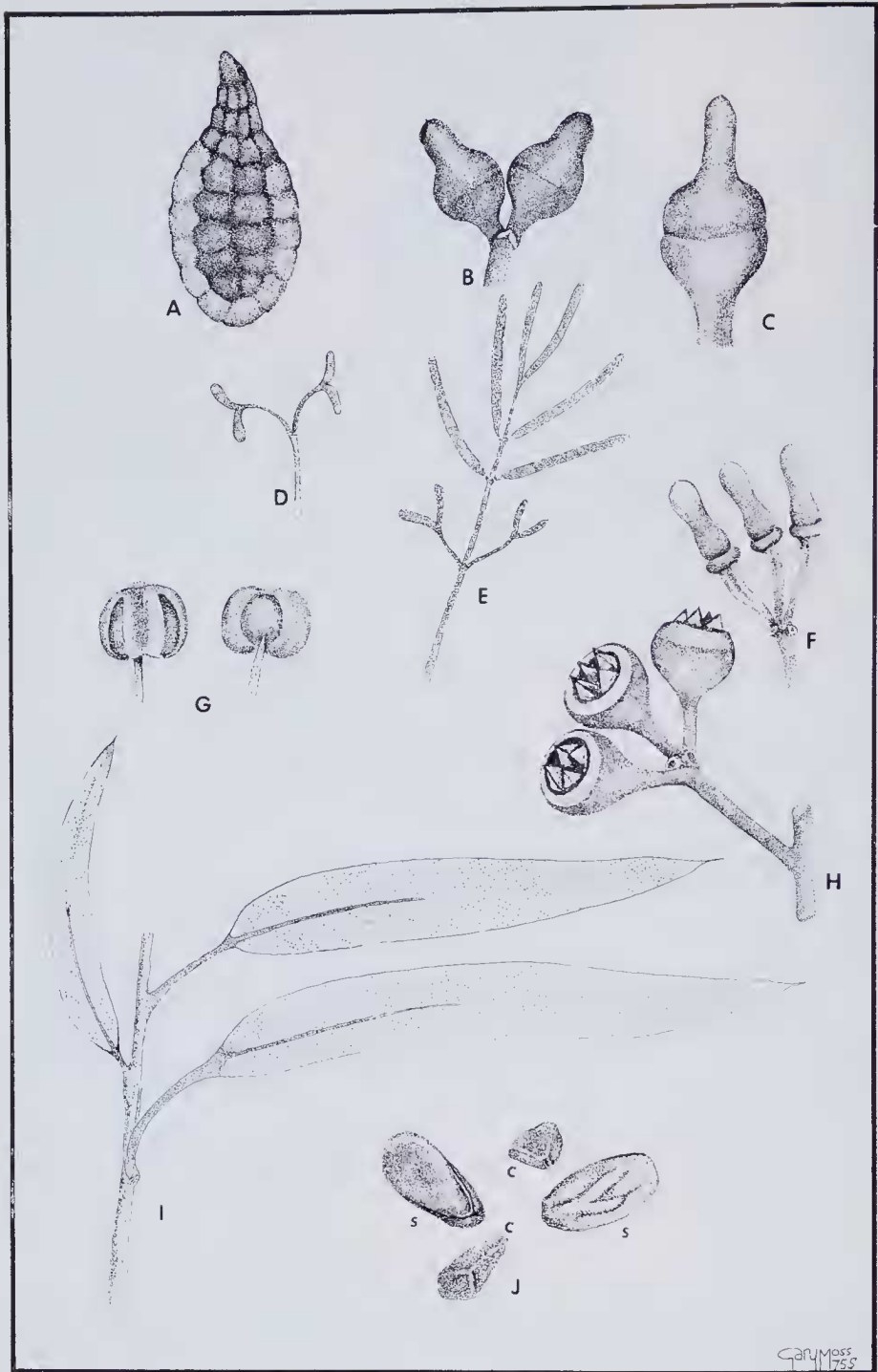


Figure 1. *Eucalyptus balladoniensis* sp. nov. A—Ovules, x 11. B, C—Buds, x 1.5. D—Cotyledons, x 1. E—Seedling, x 1. F—Young buds, x 1.5. G—Anthers, x 20. H—Fruit, x 1. I—Leaves, x 1. J—Seed(s) and chaff (c), x 15.

Few collections of *Eucalyptus balladoniensis* appear to have been made away from the Eyre Highway between Norseman and Balladonia so its distribution is poorly documented at present. The soil surface of the area of occurrence is sandy with some limestone rubble. Associated species are *Eucalyptus platycorys* Maiden & Blakely, *E. transcontinentalis* Maiden and *E. conglobata* subsp. *fraseri* M. I. H. Brooker. The two latter taxa provide a remarkable case of convergence as the trees of both are close in bark and habit. The ground cover is sparse *Triodia* sp. and *Kochia* sp.

The natural affinities of *E. balladoniensis* are not clear. It belongs in *Symphyomyrtus* and from anther and seed characters it would best be placed in the series *Oleosae** perhaps nearest to *E. transcontinentalis* from which it differs vastly, however, in habit and fruit and seedling morphology. *E. transcontinentalis* is a smooth, white-barked tree and seedlings of the Balladonia population are remarkable for their coarse, decurrent, ovate-lanceolate leaves. *E. balladoniensis* is a rough-barked mallee whose seedlings have long, linear, non-decurrent leaves.

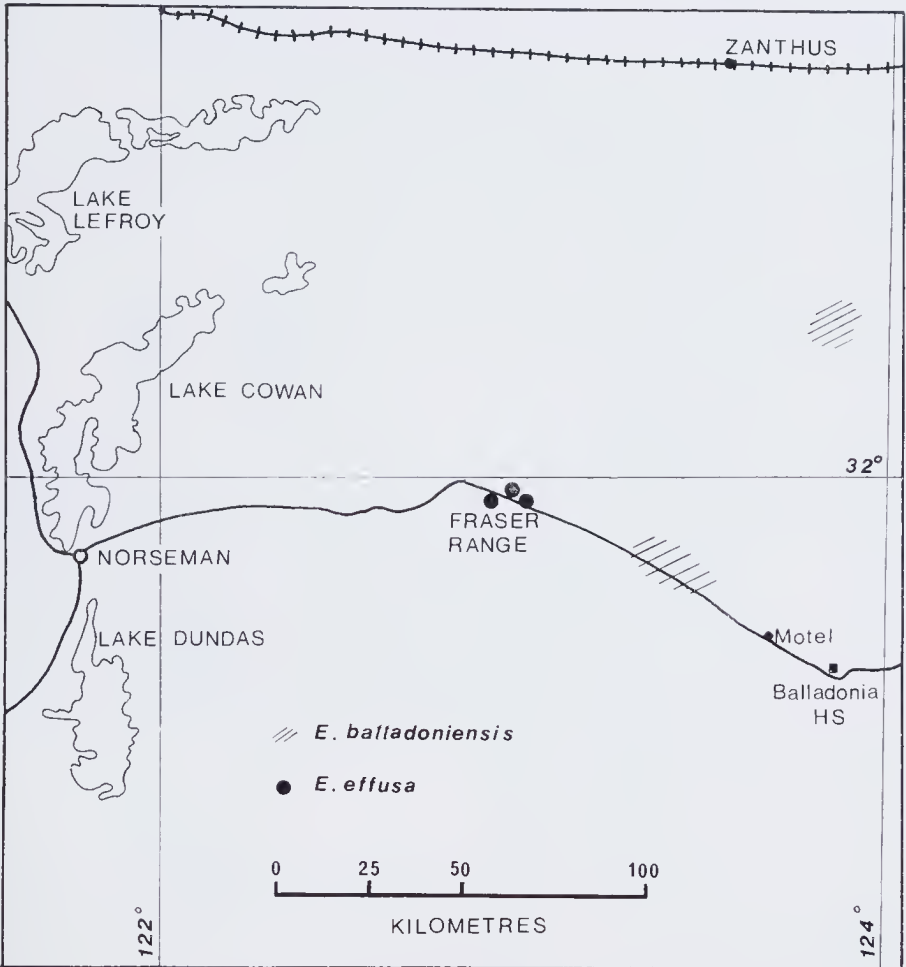


Figure 2. Distribution of *E. balladoniensis* sp. nov. and *E. effusa* sp. nov.

* Infrageneric taxa after Pryor and Johnson (1971).

Eucalyptus deflexa Brooker sp.nov. (Figures 3, 4). Pryor and Johnson code SLI:H.

Frutex "mallee" ad 3 m altus, caulibus laevibus, cinereis, exilibus. *Lignotuberrum* formans. *Folia* adulta angusto-lanceolata, 5-7 x 0.5-0.8 cm, uncinata, flavo-virentia, nitida. *Glandulae* sparsae.

Inflorescentiae axillares, (3) 7-florae. *Pedunculi* deflexi vel penduli, 1-3 cm longi, teretes. *Alabastra* cylindrica, 7-12 x 3-5 mm. *Pedicelli* ad 2 cm longi. *Opercula* depresso-hemisphaerica vel rostrata, brevia. *Filamenta* glandulifera, flava vel rosea. *Loculi* 3-5.

Fructus dolliformes, 9-12 x 6-9 mm, affixi pedicellis ad 3 cm longis.

Semina elliptica vel lachrimiformia, atrocinereo-brunnea, penitus foveata.

Type: 35 km east of Lake King towards Daniell, Western Australia (33°05'S, 120°02'E) 11 Nov. 1966, P. G. Wilson 5745 (holo: PERTH; iso: FRI).

A small *mallee* to 3 m tall with smooth, grey, slender stems to 3 cm diameter. *Pith* glandular. Capable of forming lignotubers.

Cotyledons reniform ca. 4 x 5 mm. *Seedling leaves* petiolate, decussate, lanceolate, 0.8-5 x 0.3-1.5 cm. *Adult leaves* petiolate (5-10 mm long), not opposite, narrow-lanceolate, 5-10 x 0.5-1 cm, uncinata, yellowish green, glossy. *Reticulation* dense. *Glands* sparse, irregular, at veinlet intersections.

Inflorescences axillary of (3) 7 buds. *Peduncles* deflexed or pendulous, 1-3 cm long, terete. *Buds* cylindrical, 7-12 x 3-5 mm, yellow, on pedicels to 2 cm long. *Operculum* depressed hemispherical, or rostrate, usually much shorter than the hypanthium. *Stamens* all fertile. *Filaments* glandular, inflected radially in bud, yellow or pink. *Anthers* oblong, truncate, sub-basifixed, versatile, opening by longitudinal slits. *Locules* 3-5. *Ovules* in 4 vertical rows.

Fruit barrel-shaped, 9-12 x 6-9 mm, on pedicels to 3 cm long, smooth or slightly ribbed towards the top. *Disc* broad, descending, vertical. *Valves* 3-5, deeply sunk.

Seed elliptical or tear-shaped, dark grey-brown, deeply pitted, ca. 1.5 x 1 mm. *Chaff* red-brown.

Distribution: Western Australia: east and north-east of Lake King.

Other collections: east of Lake King, Oct. 1961, A. Popplewell (PERTH, FRI); Rabbit Proof Fence 16 km north of Lake King-Norseman Road (32°56'S, 119°53'E) 17 June 1966, J. S. Beard (PERTH); Rabbit Proof Fence east of Lake King (33°05'S, 120°02'E), Oct. 1966, F. W. Rowe (PERTH, FRI); 291 mile peg on the Hyden-Norseman track, 26 Oct. 1966, A. Kessell 510 (PERTH); Mt Madden (33°14'S, 119°50'E) Mar. 1967, Officer-in-Charge, Department of Agriculture, Lake Grace (PERTH); ca. 16 km ESE of Lake King (33°08'S, 119°49'E) 30 Mar. 1967, W. Boden (PERTH); 77 km south of the Norseman-Lake King Road, 23 May 1968, H. Demarz 130 (PERTH); 27 km east of Lake King (33°05'S, 119°57'E) 9 Aug. 1968, P. G. Wilson 6965 (PERTH, FRI); 5 km south of Mt Gibbs, east of Lake King (32°57'S, 119°58'E) 31 Aug. 1969, A. S. George 9455 (PERTH, FRI), 9456 (PERTH); 30 km east of Lake King (33°05'S, 119°58'E) 21 April 1972, M. I. H. Brooker 3595 (FRI, PERTH, K, NSW, GAUBA, AD, MEL), 3596 (FRI, PERTH, AD, NSW, MEL); 121 km east of Hyden on the Norseman track (32°21'S, 120°07'E) 30 Oct. 1975, M.I.H. Brooker 4985 (FRI, PERTH, NSW, AD, MEL).

Flowering period: April-October.

Eucalyptus deflexa is a small mallee of the scrub east and north-east of Lake King. Soil surface is sandy, often with lateritic gravel. Associated species are *E. eremophila* (Diels) Maiden, *E. flocktoniae* Maiden, *E. foecunda* Schau, *E. incrassata* Labill., *E. reduca* Schau, and *E. pileata* Blakely. Its natural affinities within *Symphomyrtus* are indicated by the cotyledons (reniform), the filament arrangement (radially inflected), the ovule row number (4) and the seed coat (dark, deeply pitted with irregular transparent margins). These characters place it in the series *Torquatae*. The peduncles are always deflexed (the reason for the specific name).

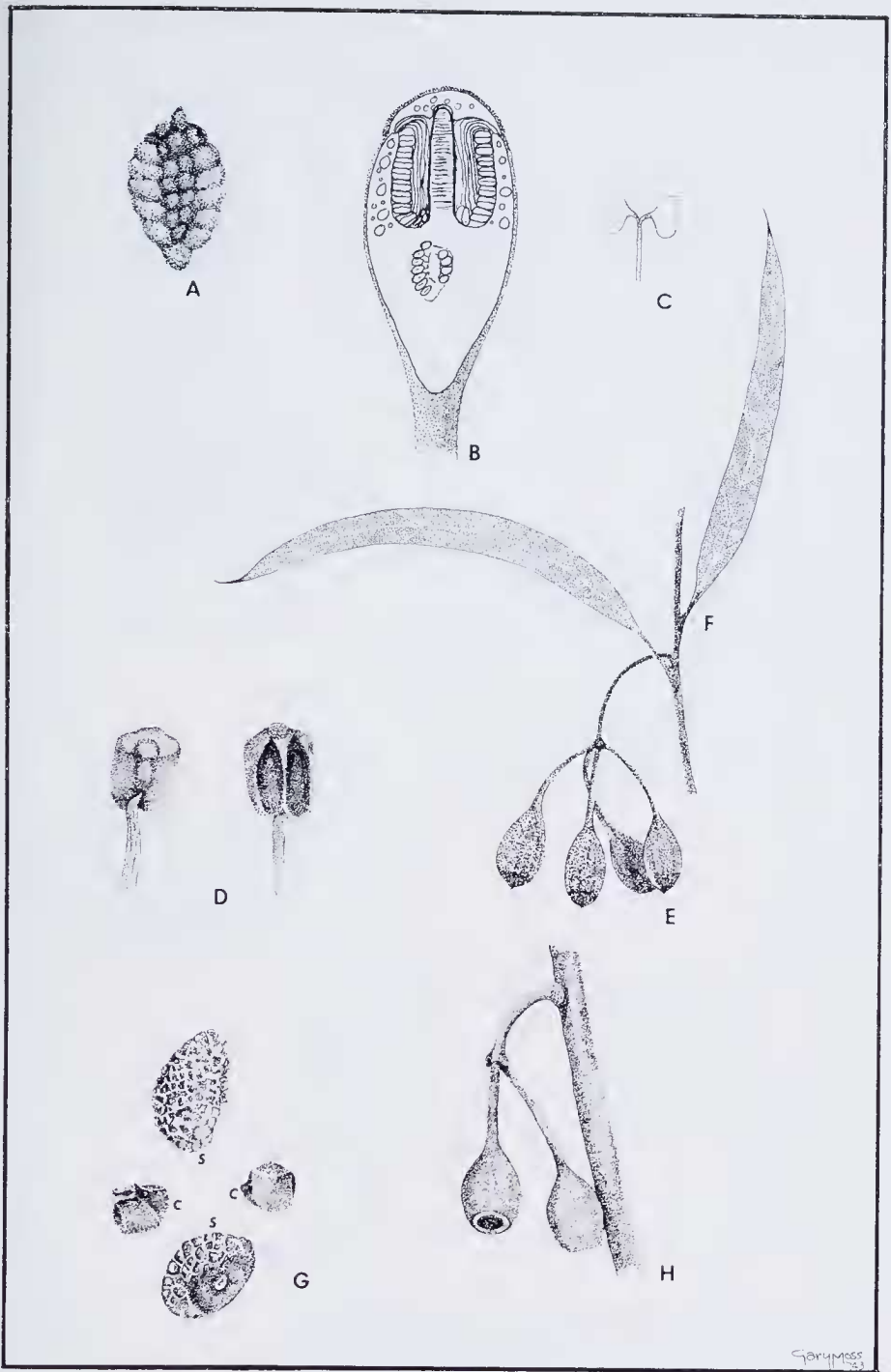


Figure 3. *Eucalyptus deflexa* sp. nov. A—Ovules, x 12. B—Bud section, x 5. C—Cotyledons, x 1.5. D—Anthers, x 30. E—Buds, x 1. F—Leaves, x 1. G—Seed(s) and chaff (c), x 10. H—Fruit, x 1.

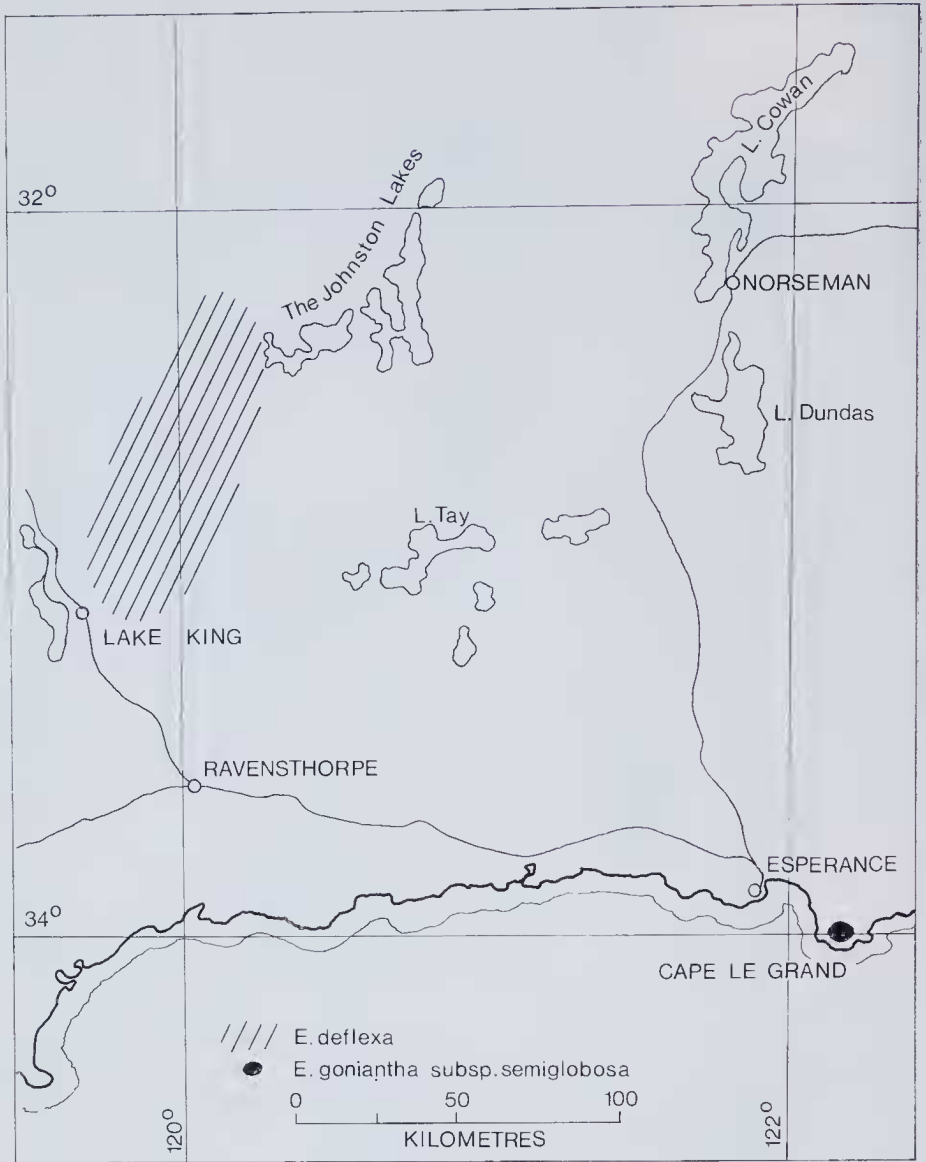


Figure 4. Distribution of *Eucalyptus deflexa* sp. nov. and *E. goniantha* subsp. *semiglobosa* subsp. nov.

Eucalyptus effusa Brooker sp. nov. (Figures 2, 5). Pryor and Johnson code SIK:l.

Eucalypto salubri F. Muell. affinis a qua habitu inferiore et effusiore, cortice nondecorticianti, caulibus non-canaliculatis, et alabastris et fructibus brevioribus, differt.

Type: 112 km east of Norseman by road towards Balladonia, Western Australia (32 02'S, 122 57'E) 12 Mar. 1967, G. M. Chippendale 157 (holo: FRI; iso: PERTH, NSW, MEL).

A mallee to 4 m tall with flaking, non-decortivating bark on the stems, smooth grey or pinkish grey above; stems apparently non-fluted. Capable of forming lignotubers. *Pith* glandular.

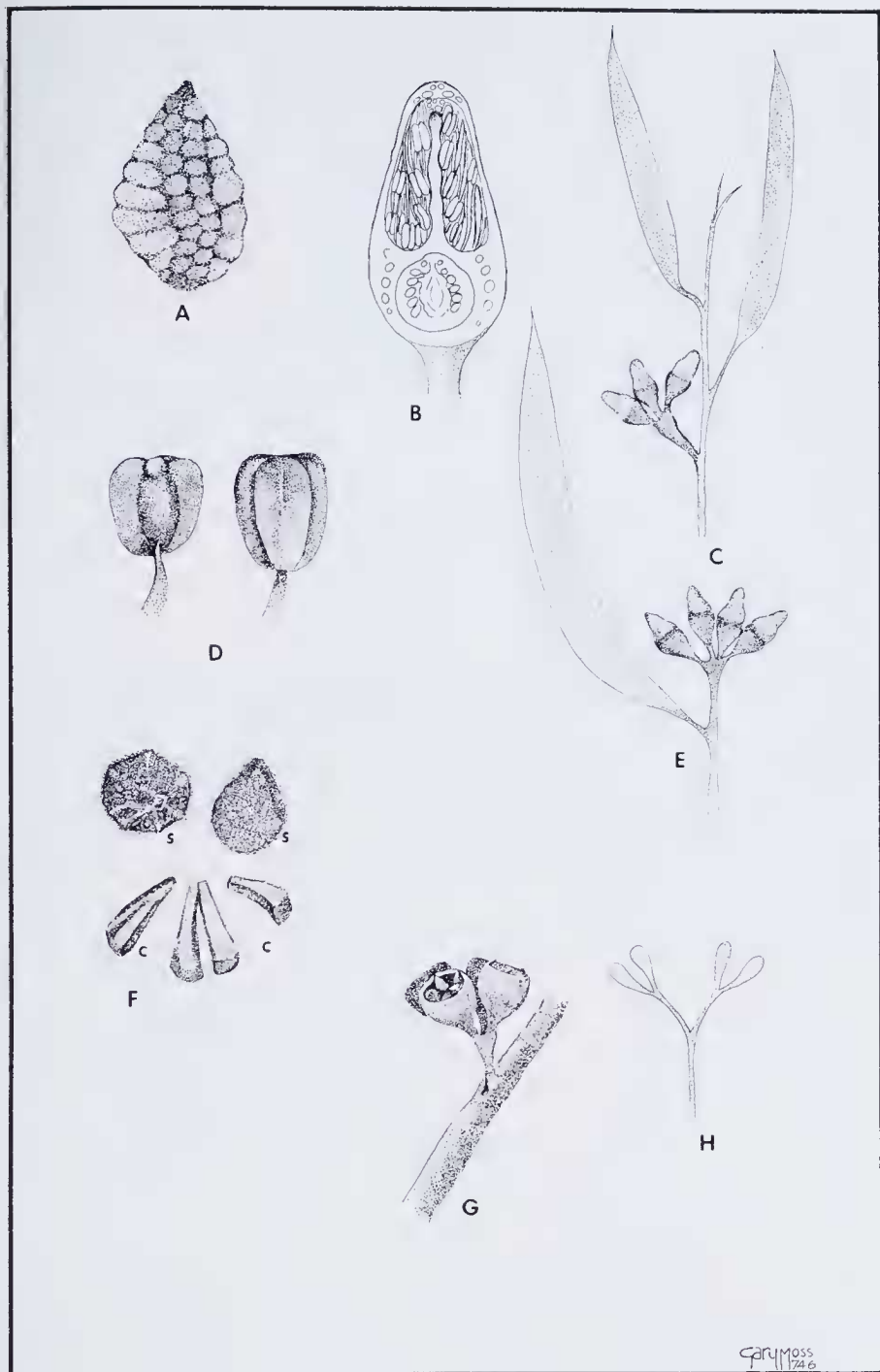


Figure 5. *Eucalyptus effusa* sp. nov. A—Ovules, x 18. B—Bud section, x 7. C, E—Buds and leaves, x 1. D—Anthers, x 20. F—Seed(s) and chaff (c), x 15. G—Fruit, x 1.7. H—Cotyledons, x 2.

Cotyledons bisected, petiole 3–4 mm, arms 5–10 mm. *Seedling leaves* petiolate, decussate, lanceolate to ovate-lanceolate, 1.5 x 0.3–2 cm, green. *Adult leaves* petiolate, not opposite, lanceolate, 5–10 x 0.6–1.5 cm. *Reticulation* moderately dense and finally obscure. *Glands* numerous, very irregular in outline, discrete.

Inflorescences of 7 flowers, axillary or sometimes apparently clustered towards the ends of branchlets. *Peduncles* 3–10 mm long, becoming broader at the top. *Buds* cylindroid or double-conical, 6–9 x 3–4 mm. *Pedicels* 1–3 mm long. *Operculum* acutely or obtusely conical, as long as or longer than the hypanthium. *Stamens* all fertile, at first erect then variously inflected with the anthers surrounding the style. *Anthers* oblong, sub-basifixed, versatile, opening by longitudinal slits. *Locules* 3 or 4. *Ovules* in 4 or 6 vertical rows.

Fruit shortly pedicellate, cupular or obconical, 5–7 x 5–6 mm. *Disc* not conspicuous. *Valves* 3 or 4 to rim level or slightly exerted.

Seed irregular, ca. 1 x 1 mm, yellow or brown, deeply and finely pitted on the dorsal side. *Chaff* cubic and subulate, reddish brown.

Distribution: Western Australia: between the Fraser Range and Balladonia.

Other collections: Eyre Highway, 85 km WNW of Balladonia Station, Western Australia (32 04'S, 123 03'E) 2 Oct. 1961, J. H. Willis (MEL, FRI); 115–116 km east of Norseman by road toward Balladonia, Western Australia (32 02'S, 122 58'E) 14 Feb. 1970, M. I. H. Brooker 2483 (PERTH) and 26 April 1972, M. I. H. Brooker 3646 (FRI, PERTH, K, NSW, AD).

Flowering period: uncertain (GMC 157 flowered in March).

The natural affinities of *Eucalyptus effusa* are clear. The cotyledons are bisected (section Bisectaria), the pith is strongly glandular, the filaments are firstly erect then variously inflected with long anthers, and the seed coat is honey-combed in a characteristic fashion (series Salubres). It is therefore a "gimlet" but appears to retain the dead bark and to lack the fluted stems.

Eucalyptus effusa is a low mallee of unimpressive straggly appearance (the reason for the specific name). It often occurs in pure stands in low hilly or flat stony country sometimes with dense *Triodia* understorey. Its distribution is not known to overlap with that of other gimlets which occur to the south and west. Hence it may retain its fairly high degree of specific integrity compared with *E. salubris* F. Muell., *E. campaspe* S. Moore and *E. diptera* Andrews which have overlapping distributions resulting in intergradation.

***Eucalyptus goniantha* Turcz. subsp. *semiglobosa* Brooker subsp. nov.** (Figures 4, 6). Pryor and Johnson code SIP:DB.

A subspecies typica praesertim operculis globosis et generaliter pedicellis longioribus, gracilioribus et fructibus semiglobosis, differt.

Type: Between Mt Le Grand and Frenchmans Peak, Western Australia (33 59'S, 122 08'E) 22 April 1972, M. I. H. Brooker 3613 (holo: FRI; iso: PERTH, NSW, K, AD, MEL, BRI).

An erect *mallee* to 3 m tall with smooth, grey bark. *Branchlets* quadrangular in section. Capable of forming lignotubers.

Cotyledons bisected, slender, petiole 7–10 mm, arms 8–11 mm. *Seedling leaves* sessile, decussate, linear, 1.5–4 x 0.1–1 cm. *Juvenile leaves* petiolate, decussate, ovate, 2–4 x 1–2 cm. *Adult leaves* petiolate (1.5–2.5 cm long), not opposite, lanceolate to broad-lanceolate, 8–12 x 2–4 cm, dark green, glossy. *Reticulation* dense. *Glands* numerous, irregular, seen mainly at veinlet intersections, large, ± equal to areoles.

Inflorescences axillary of 7 or 9 buds. *Peduncles* erect or deflexed, 15–25 mm long, stout, flattened. *Buds* 8–11 x 6–8 mm, hypanthium cup-shaped, operculum hemispherical, thick, narrower than hypanthium. *Pedicels* 3–6 mm

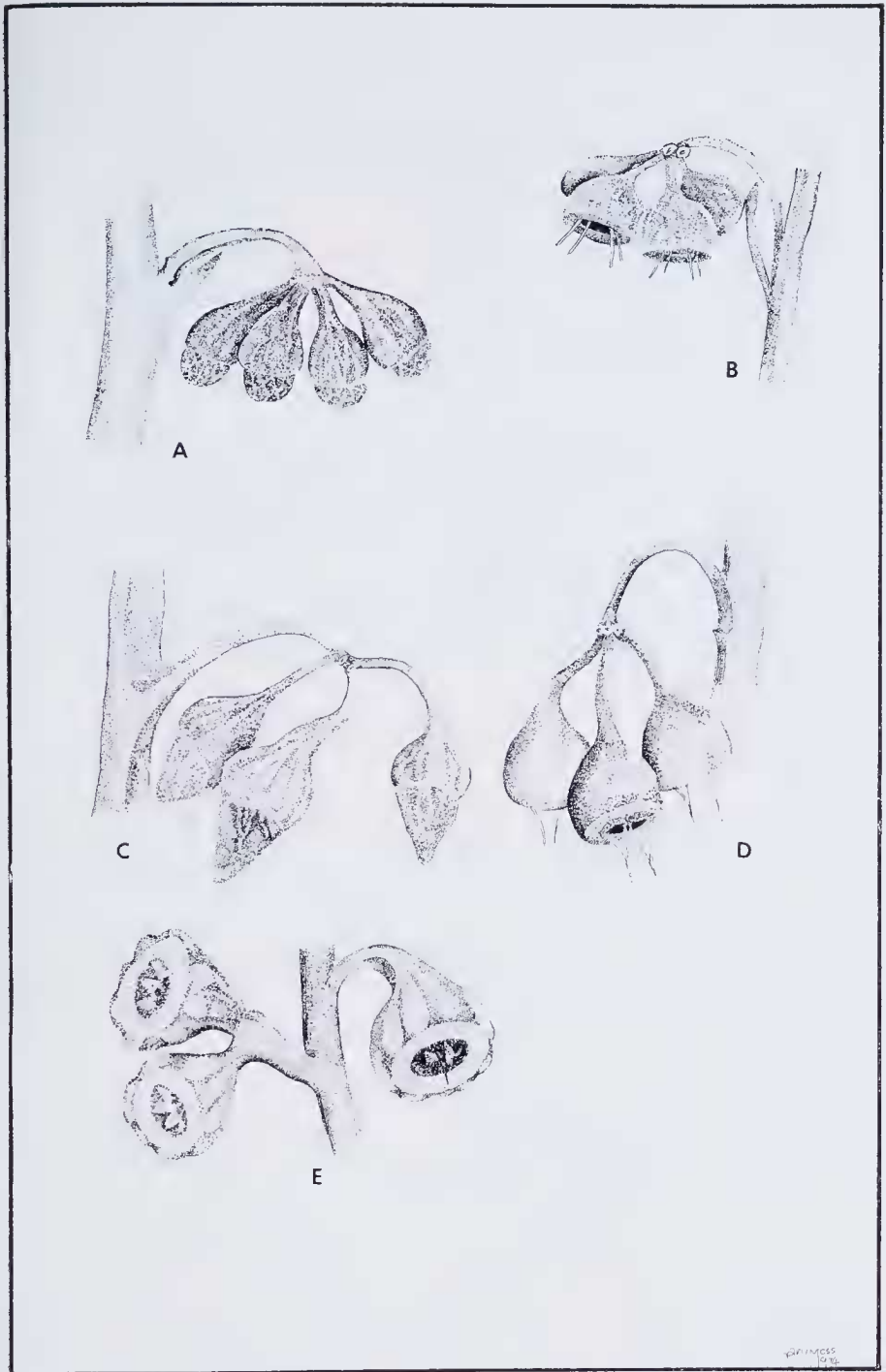


Figure 6. *Eucalyptus goniantha* subsp. *semiglobosa* subsp. nov. A—Buds, x 1.2. B—Fruit, x 1.2. *Eucalyptus goniantha* subsp. *goniantha*. C—Buds, x 1.3. D, E—Fruit, x 1.3.

long. *Stamens* all fertile. *Filaments* glandular, inflected radially in bud. *Anthers* oblong, dorsifixed, versatile, opening by longitudinal slits. *Locules* 4 or 5. *Ovules* in 4 vertical rows.

Fruit pedicellate, hemispherical to subglobular, 7–12 x 11–15 mm, ribbed or wrinkled. *Operculum scar* broad. *Disc* descending, vertical. *Valves* 4 or 5, coherent with the unshed style in young fruit, finally at rim level.

Seed elliptical, ca 2 x 1 mm, grey, with shallow reticulation. *Chaff* yellowish brown, cubic or subulate.

Distribution: Western Australia: between Mt Le Grand and Frenchmans Peak, south-east of Esperance.

Other collections: same locality as type, 22 April 1972, M. I. H. Brooker 3614 (FRI), 3615 (FRI, PERTH, NSW, AD, MEL).

Flowering period: April.

Eucalyptus goniantha subsp. *semiglobosa* is a mallee shrub known only from the sides of a creek in granitic hills between Mt Le Grand and Frenchmans Peak. Its erect habit may be brought about by the extremely dense shrubbery among which it grows. Associated species are *E. aquilina* Brooker and *E. ligulata* Brooker. It is obviously close to *E. goniantha* from which it differs consistently in the rounded opercula (the reason for the subspecific name) and consequently less deeply buried style tip, and more generally in the longer, more slender pedicels, and subglobular fruit. The form is imperfectly known and sampled and it is not to be unexpected that more intergradation with subsp. *goniantha* than has been seen to date will be found.

***Eucalyptus leucophloia* Brooker sp. nov.** (Figures 7, 8). Pryor and Johnson code SNACIB.

Arbor parva vel frutex "mallee" pagina corticis alba, pulverulenta. *Lignotuberum* formans. *Medulla* glandulifera.

Cotyledones reniformes, 3 x 5 mm. *Folia plantulae* decussata, glauca, primum subsessilia, angusto-lanceolata vel ovata, demum petiolata, ovata vel orbicularia ad 7 x 6 cm. *Folia adulta* petiolata, non-opposita, lanceolata vel angusto-lanceolata, 5–10 x 1–2 cm, glauca vel flavo-viridia.

Inflorescentiae plerumque axillares, 7-vel 11-florae, glaucae. *Alabastra* breviter pedicellata, ovoidea vel duplicato-conica. *Stamina* omnia fertilia. *Antherae* oblongae, dorsifixae, versatiles ab rimis longitudinalibus non-confluentibus dehiscentes. *Ovarium* inferum vel semi-inferum. *Loculi* 3. *Ovula* verticaliter 4, 5, vel 6 seriata.

Fructus breviter pedicellati, hemisphaerici vel cupulati. *Discus* angustus. *Valvae* plerumque valde exsertae.

Semina ca. 1.5 x 1 mm, flavo-brunnea, reticulo nonprofundo.

Type: Western Australia, near Rudall River (22 37'S, 122 12'E) 22 May 1971, A. S. George 10782 (holo: PERTH; iso: FRI, K, NSW).

A small *tree* or *mallee* with white powder bark over the trunk and limbs. *Bark* often characteristically black-spotted. Capable of forming lignotubers. *Pith* glandular.

Cotyledons reniform, 3 x 5 mm. *Seedling leaves* decussate, glaucous, at first subsessile, lanceolate to ovate; later, petiolate, ovate to orbicular, to 7 x 6 cm. *Adult leaves* petiolate, not opposite, lanceolate to narrow-lanceolate, 5–10 x 1–2 cm, glaucous or yellowish green. *Reticulation* dense. *Glands* few at veinlet intersections.

Inflorescences 7 or 11 flowered, axillary, sometimes clustered towards the ends of branchlets; more or less glaucous. *Peduncles* 4–10 mm long. *Buds* shortly pedicellate, ovoid to double conical 5–9 x 3–5 mm. *Operculum* hemispherical, conical to slightly rostrate, shorter than or equal to the hypanthium.

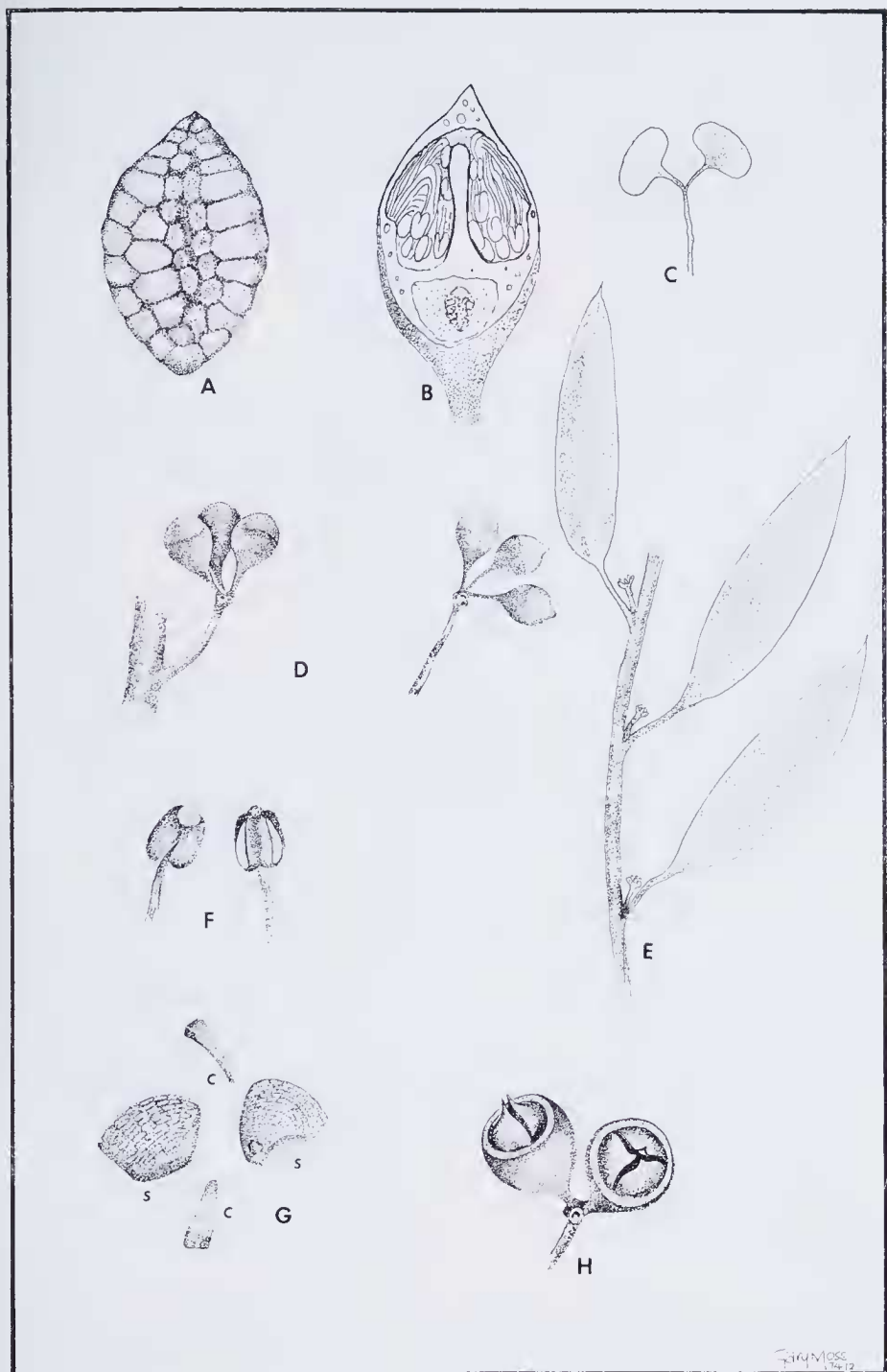


Figure 7. *Eucalyptus leucophloia* sp. nov. A—Ovules, x 30. B—Bud section, x 5. C—Cotyledons, x 3. D—Buds, x 1. E—Leaves, x 1. F—Anthers, x 20. G—Seed(s) and chaff (c), x 25. H—Fruit, x 2.

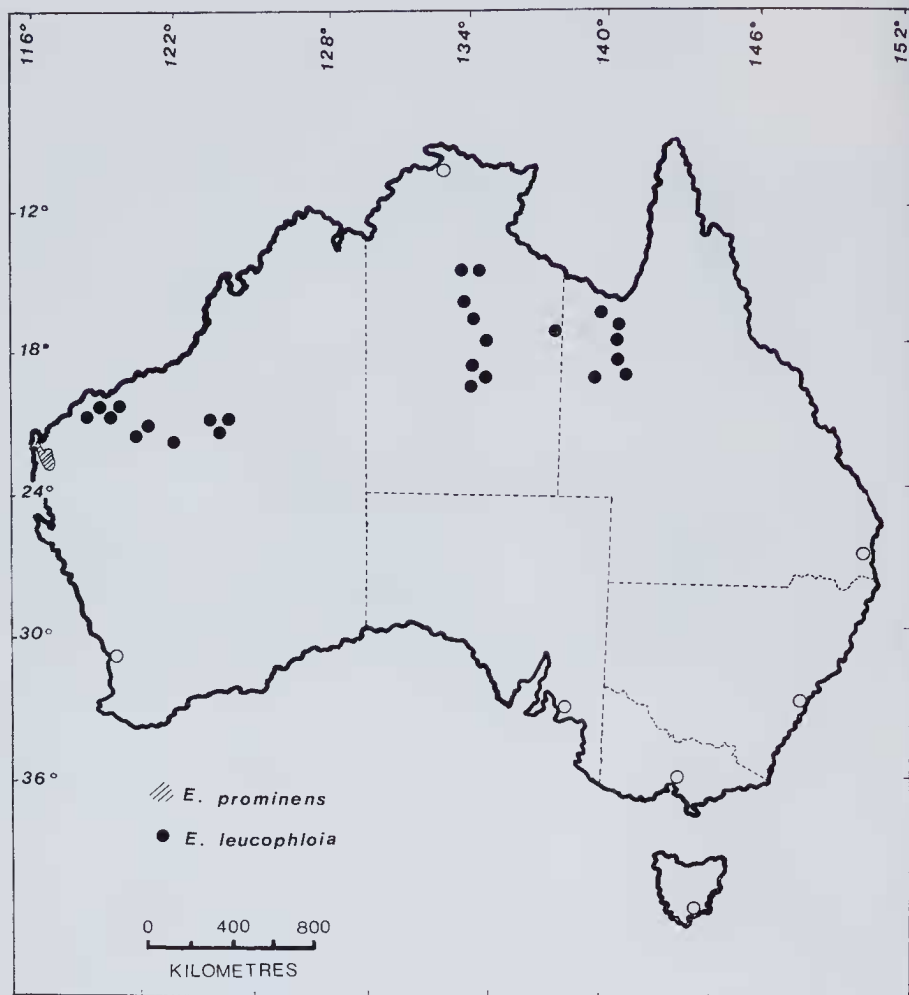


Figure 8. Distribution of *Eucalyptus leucophloia* sp. nov. and *E. prominens* sp. nov.

Stamens all fertile. *Filaments* variously inflected. *Anthers* oblong, dorsifixed, versatile, opening by longitudinal slits. *Ovary* inferior or semi-inferior. *Locules* 3. *Ovules* in 4, 5 or 6 vertical rows.

Fruit shortly pedicellate, hemispherical or cupular, 5–8 x 4–6 mm. *Disc* narrow. *Valves* 3, usually strongly exerted and deltoid.

Seed irregular in outline, flattish, ca. 1.5 x 1 mm, yellowish brown with a shallow reticulum on the dorsal side.

Distribution: From the Pilbara district of Western Australia eastwards across the continent to western Queensland.

Other collections: numerous collections in Western Australia between latitudes 20° and 23°; and in the Northern Territory and western Queensland between latitudes 16° and 21°.

Flowering period: June–November.

Eucalyptus leucophloia has been confused with *E. brevifolia* F. Muell. for many years. *E. brevifolia* has a much more restricted distribution than *E.*

leucophloia (Hall and Brooker 1974) and is confined to the Kimberley district of Western Australia and the north-west of the Northern Territory. Blake (1953) included both taxa in *E. brevifolia* and commented that specimens from the neighbourhood of the Victoria River, the type locality, had fruit with "a relatively broad disc and short valves", and that the fruit of "Blake 17360 (near Powell Creek) at the other extreme—with a relatively much thinner, more or less descending disc and larger valves". These specimens are *E. brevifolia* and *E. leucophloia* respectively.

Blake (loc. cit.) commented on the confusion between *E. brevifolia* and *E. microtheca* on fruit characters. This would apply particularly to *E. leucophloia*, as both it and *E. microtheca* have obscure discs and partly superior ovaries resulting in strongly exerted deltoid valves, but the two are readily separable on anther characters—*E. microtheca* being distinctly a box and *E. leucophloia* (and *E. brevifolia*) belonging to the series *Albae*.

The specific name is given for the strikingly white bark which is often characteristically black spotted. *E. leucophloia* is known as "Migum" in the Pilbara district of Western Australia where it is very common and associated with *E. terminalis* F. Muell., *E. gauquhylla* F. Muell. and *E. trivalvis* Blakely. The seedling leaves of the Pilbara forms tend to be orbicular, often broader than long while those to the east tend to have ovate seedling leaves.

***Eucalyptus prominens* Brooker sp. nov.** (Figures 8, 9). Pryor and Johnson code SH:G.

Frutex "mallee" vel arbor parva ad 3 m alta. *Cortex* interdum fibrosa basin versus vel omnino laevis. *Lignotuberum* formans.

Folia plantulae sessilia, decussata, lanceolata, 1–6 x 0.5–1.5 cm. *Folia adulta* angustolanceolata vel lanceolata, 6–13 x 0.7–2 cm, nitida.

Inflorescentiae axillares, 7-florae. *Peduncululi* 4–15 mm longi, plerumque crassi. *Alabastra* clavata, 8–13 x 5–10 mm, fere sessilia vel pedicellis ad 4 mm longis. *Hypanthium* obconicum. *Operculum* hemisphaericum plerumque quam hypanthium brevius. *Loculi* 4 vel 5.

Fructus obconici, 6–12 x 8–13 mm. *Valvae* leviter exertae.

Semina elliptica, atrocinerea, ca. 1.5 x 1 mm.

Type: Shothole Canyon, Cape Range, Western Australia (22°04'S, 114°01'E) 6 Sept. 1970, K. M. Allan 462 (holo: PERTH; iso: FR1, NSW, AS, K, AD).

A mallee or small tree to 3 m tall. *Bark* sometimes fibrous and grey at base to 0.5 m, or wholly smooth and grey to greenish brown. *Pith* glandular. Capable of forming *lignotubers*.

Cotyledons bisected, petiole ca. 6 mm, arms ca. 8 mm long. *Seedling leaves* sessile, decussate, lanceolate, 1–6 x 0.5–1.5 cm. *Adult leaves* petiolate (5–20 mm long, flattened), not opposite, narrow-lanceolate to lanceolate, 6–13 x 0.7–2 cm, shining. *Reticulation* moderately dense though finally obscure. *Glands* numerous, large, very irregular, green or clear.

Inflorescences axillary of 7 buds. *Peduncles* 4–15 mm long, usually stout and flattened or terete and angular. *Buds* clavate, 8–13 x 5–10 mm, almost sessile or pedicels to 4 mm long. *Hypanthium* obconical. *Operculum* hemispherical usually shorter than the hypanthium. *Stamens* all fertile. *Filaments* irregularly inflected. *Anthers* surrounding the style and domed roof of ovary, oblong, sub-basifixed, versatile, opening by longitudinal slits. *Locules* 4 or 5. *Ovules* in 4 or 6 vertical rows.

Fruit obconical, 6–12 x 8–13 mm. *Disc* incurved. *Valves* 4 or 5 slightly exerted.

Seed elliptical, ca. 1.5 x 1 mm, dark grey, shallowly pitted.

Distribution: Western Australia: Cape Range and west of Scrubby Range.

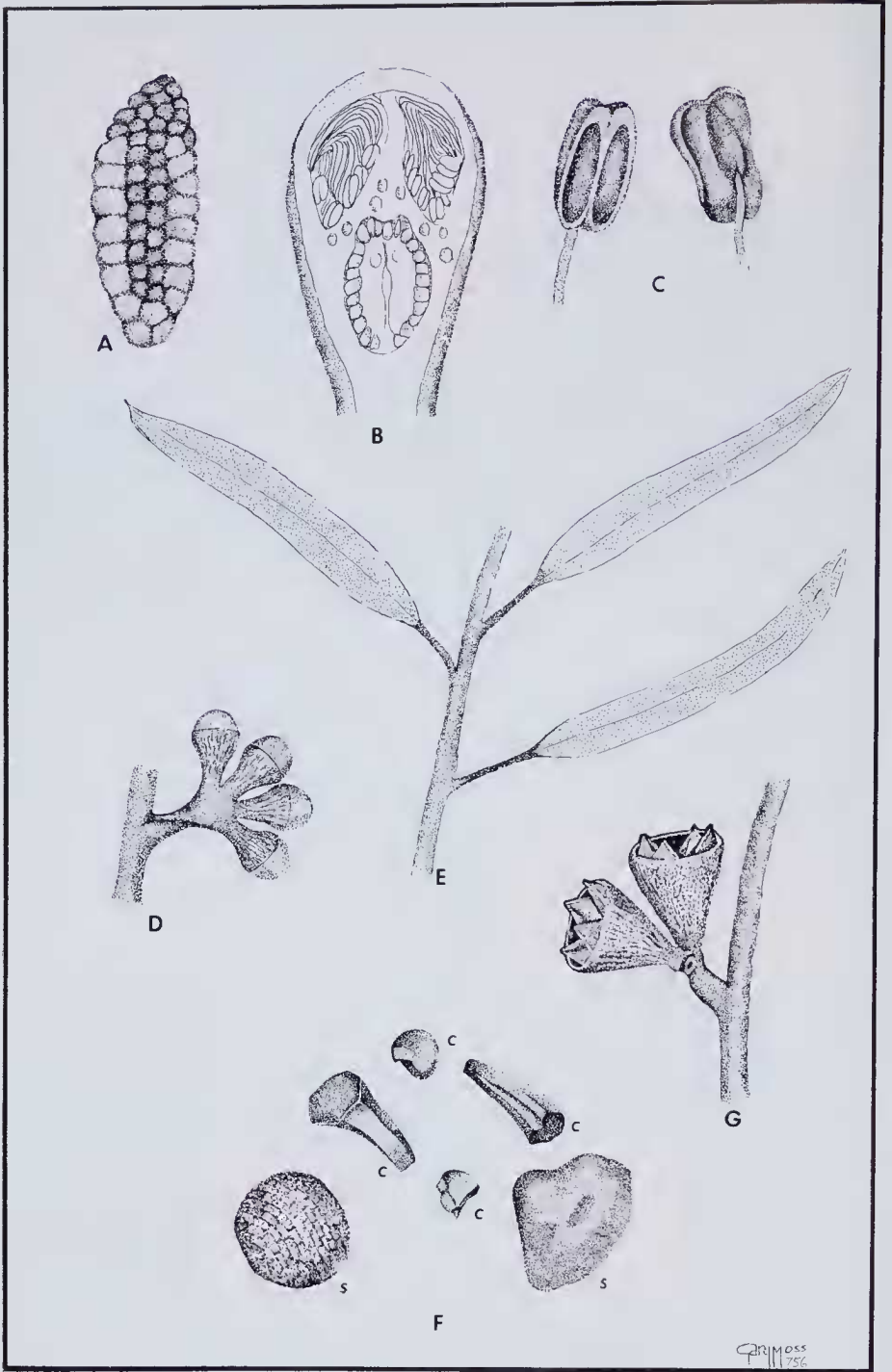


Figure 9. *Eucalyptus prominens* sp. nov. A—Ovules, x 13. B—Bud section, x 5. C—Anthers, x 20. D—Buds, x 1. E—Leaves, x $\frac{1}{2}$. F—Seed(s) and chaff (c), x 13. G—Fruit, x 1.5.

Other collections: 16 km west of Learmonth, south of Exmouth (22 14'S, 113 56'E) 5 Sept. 1970, K. M. Allan 439 (PERTH, FRI, NSW, MEL, BRI); Shothole Canyon, Cape Range, south of Exmouth (22 04'S, 113 56'E) 7 Sept. 1970, K. M. Allan 465 (PERTH, FRI, NSW, GAUBA, DAR); Shothole Canyon, Cape Range (22 04'S, 114 01'E) 7 Sept. 1970, A. S. George 10321 (PERTH, FRI, AD, MEL), 25 April 1974, M. I. H. Brooker 4577, 4578, 4579 (FRI, PERTH, NSW, AS, GAUBA); Exmouth road, 22 km north of Waroora turnoff (23 18'S, 113 51'E) 8 Sept. 1970, A. S. George 10352 (PERTH, FRI, NSW, AD, GAUBA, AS, DAR); near Mt Hollister, Cape Range (22 08'S, 114 01'E) 24 April 1974, M. I. H. Brooker 4575 (FRI, PERTH, NSW, AS, AD); ca. 5 km west of Giralfa homestead (22 01'S, 114 21'E) 24 April 1974, M. I. H. Brooker 4569 (FRI, PERTH, NSW, AD, AS).

Flowering period: September-October.

Eucalyptus prominens occurs mainly in the Cape Range, west of Exmouth Gulf where it grows on limestone hills and in valleys. Associated species are *E. oleosa* F. Muell. ex Miq. and *E. terminalis* F. Muell. South of the Gulf it grows on sandy plains and low sandhills where *Triodia* sp. forms a dense ground cover.

E. prominens is related to *E. trivalvis* and differs in the 4-5 locular ovary, the obconical fruit with much more prominent valves (the reason for the specific name) and seedlings whose leaves are almost sessile. The buds are usually bigger than those of *E. trivalvis* with opercula more rounded and much shorter than the hypanthium.

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